

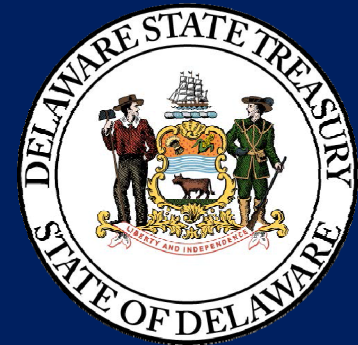
INVESTMENT PERFORMANCE SUMMARY

OFFICE OF THE STATE TREASURER & CASH MANAGEMENT POLICY BOARD

Month Ending June 30, 2019

John Krimmel, CPA, CFA, Partner

Kevin M. Leonard, Partner



BOSTON | ATLANTA | CHARLOTTE | CHICAGO | DETROIT | LAS VEGAS | PORTLAND | SAN FRANCISCO

CALENDAR YEAR INDEX PERFORMANCE

	2013	2014	2015	2016	2017	2018	Q1	Apr	May	June	YTD	5yr	10yr
Reserve Custom Index	0.12%	1.1%	0.86%	1.15%	1.00%	1.59%	2.19%	0.09%	1.53%	1.07%	4.96%	2.03%	1.95%
Endowment Custom Index	14.46%	5.43%	-0.07%	5.71%	14.52%	-5.07%	8.63%	2.14%	-2.75%	4.46%	12.71%	5.31%	8.19%
Citi 3 Mo Treasury Bill	0.05%	0.03%	0.27%	0.84%	0.31%	1.86%	0.60%	0.20%	0.21%	0.20%	1.21%	0.84%	0.46%
BAML 1-3 Yr Govt/Credit A+	0.55%	0.72%	0.66%	1.07%	0.70%	1.65%	1.10%	0.23%	0.69%	0.55%	2.59%	1.37%	1.47%
BAML 1-5 Yr Govt/Credit A+	0.10%	1.42%	1.07%	1.30%	1.02%	1.50%	1.41%	0.20%	0.95%	0.71%	3.30%	1.72%	2.07%
BAML 5-10 Yr Govt/Credit A+	-3.80%	6.60%	1.90%	2.00%	3.00%	0.59%	3.13%	-0.03%	2.23%	1.52%	7.00%	3.34%	4.65%
BBrg Barclays US Aggregate	-2.02%	5.97%	0.55%	2.65%	3.54%	0.01%	2.94%	0.03%	1.78%	1.26%	6.11%	2.95%	3.90%
BC Municipal Bond	-2.60%	9.10%	3.30%	0.20%	5.40%	1.28%	2.90%	0.38%	1.38%	0.37%	5.09%	3.64%	4.72%
BC US Corp High Yield	7.40%	2.50%	-4.50%	17.10%	7.50%	-2.08%	7.26%	1.42%	-1.19%	2.28%	9.94%	4.70%	9.24%
BC Long Treasuries	-12.70%	25.10%	-1.20%	1.30%	8.50%	-1.80%	4.67%	-1.79%	6.54%	1.33%	10.98%	5.71%	6.53%
BC US Long Credit	-6.60%	16.40%	-4.60%	10.20%	12.20%	-6.80%	7.86%	0.61%	2.38%	3.90%	15.44%	5.78%	8.41%
MSCI World Index	26.68%	4.94%	0.87%	7.51%	22.40%	-8.71%	12.48%	3.55%	-5.77%	0.31%	1.69%	1.26%	0.94%

Source: Bloomberg, Barclays, Alerian, Nareit, MSCI, JP Morgan, Credit Suisse, Thomson One



TOTAL FUND PERFORMANCE DETAIL-NET OF FEES

	Market Value (\$)	% of Portfolio	1 Mo (%)	3 Mo (%)	YTD (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	4 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Delaware Total Consolidation	2,652,150,975	100.00	0.89	1.92	3.90	5.26	3.07	2.35	2.14	1.85	1.36	2.11	Jan-05
Total Liquidity & Reserve	2,580,630,879	97.30	0.78	1.87	3.61	5.25	2.94	--	--	--	--	2.38	Nov-16
Total Liquidity	756,757,968	28.53	0.31	0.84	1.69	2.89	2.07	1.69	1.47	1.26	0.94	1.81	Jan-05
PFM Asset Management	379,459,861	14.31	0.30	0.82	1.65	2.76	2.07	1.73	1.53	1.33	--	1.19	Jun-13
Wilmington Liquidity	377,298,107	14.23	0.33	0.86	1.73	3.00	2.02	1.58	1.40	1.21	0.98	4.19	Jan-85
Total Reserve	1,823,872,911	68.77	1.02	2.57	4.94	6.95	3.56	2.44	2.41	2.09	1.81	2.47	Jan-05
Reserve Custom Index			<u>1.07</u>	<u>2.71</u>	<u>4.96</u>	<u>7.19</u>	<u>3.51</u>	<u>2.33</u>	<u>2.27</u>	<u>2.03</u>	<u>1.95</u>	<u>2.67</u>	<u>Jan-05</u>
Over/Under			-0.05	-0.14	-0.02	-0.24	0.05	0.11	0.14	0.06	-0.14	-0.20	
JPM Intermediate	446,232,523	16.83	0.53	1.45	2.79	4.33	2.30	1.59	1.75	1.59	--	1.47	Jun-13
J.P. Morgan Custom Index			<u>0.55</u>	<u>1.47</u>	<u>2.59</u>	<u>4.17</u>	<u>2.17</u>	<u>1.45</u>	<u>1.60</u>	<u>1.50</u>	<u>1.69</u>	<u>1.37</u>	<u>Jun-13</u>
Blackrock Financial Mangement	450,402,164	16.98	0.68	1.79	3.40	5.10	--	--	--	--	--	4.25	Mar-18
Blackrock Custom Index			<u>0.71</u>	<u>1.86</u>	<u>3.30</u>	<u>5.14</u>	<u>2.59</u>	<u>1.73</u>	<u>1.81</u>	<u>1.66</u>	<u>1.77</u>	<u>4.14</u>	<u>Mar-18</u>
Chandler Asset Management	465,725,064	17.56	1.36	3.27	6.63	9.04	4.53	3.05	2.93	2.56	--	2.25	Jun-13
Lazard Financial Management	461,513,160	17.40	1.49	3.71	6.90	9.31	--	--	--	--	--	7.24	Mar-18
Chandler/Lazard Custom Index			<u>1.52</u>	<u>3.75</u>	<u>7.00</u>	<u>9.76</u>	<u>4.64</u>	<u>3.08</u>	<u>2.82</u>	<u>2.47</u>	<u>2.17</u>	<u>7.27</u>	<u>Mar-18</u>
Total Endowment	71,520,096	2.70	4.76	3.61	13.12	6.50	6.45	8.41	--	--	--	5.95	Aug-15
Endowment Custom Index			<u>4.46</u>	<u>3.75</u>	<u>12.71</u>	<u>7.33</u>	<u>6.89</u>	<u>8.07</u>	<u>6.24</u>	<u>5.31</u>	<u>8.19</u>	<u>6.01</u>	<u>Aug-15</u>
Over/Under			0.30	-0.14	0.41	-0.83	-0.44	0.34	--	--	--	-0.06	
SEI Funds	24,666,596	0.93	4.80	3.46	13.30	6.32	6.62	8.93	--	--	--	6.91	Aug-15
MSIFT Global Strategist	23,080,612	0.87	4.72	3.47	11.88	6.11	6.01	7.99	--	--	--	5.31	Aug-15
JP Morgan Diversified	23,772,475	0.90	4.75	3.91	14.17	6.64	6.86	8.96	--	--	--	6.22	Aug-15
Cash Account	413	0.00	0.17	0.56	1.15	1.93	1.49	1.10	--	--	--	0.88	Aug-15

Notes: Net of Fees. Results for periods longer than one year are annualized.

Performance history through 12/2015 is from BNY Mellon. NEPC Performance start date is January 2016. Fiscal Year end is June 30.

Prior to 03/01/2018 Reserve Custom Index is comprised of 75% BofA Merrill Lynch 1-5 year Govt/Corporate A+ or Better/ 25% 6 Month Treasury Bill.

Endowment Custom Index is comprised of 60% MSCI World Index/40% Barclays Capital Aggregate.

BlackRock Custom Index consists of BofA Merrill Lynch 1-5 Year Corporate/Government A+ or Better.

J.P. Morgan Custom Index consists of 100% 1-3 Year BofA Merrill Lynch Corporate/Government A+ or Better.

Chandler/Lazard Custom Index consists of 100% 5-10 Year BofA Merrill Lynch Corporate/Government A+ or Better.



YIELD AND DURATION POSITIONING

Liquidity Portfolio Yield and Duration Analysis							
Portfolio					Benchmark		
	<u>Portfolio Value</u>	<u>% of Assets</u>	<u>Yield</u>	<u>Duration</u>		<u>Yield</u>	<u>Duration</u>
PFM \$	379,459,861	14.7%	2.33%	0.55	6-Month Treasury Bill	2.05%	0.45
Wilmington Trust \$	377,298,107	14.6%	2.26%	0.79	6-Month Treasury Bill	2.05%	0.45
Total Liquidity \$	756,757,968	29.3%	2.30%	0.67	6-Month Treasury Bill	2.05%	0.45

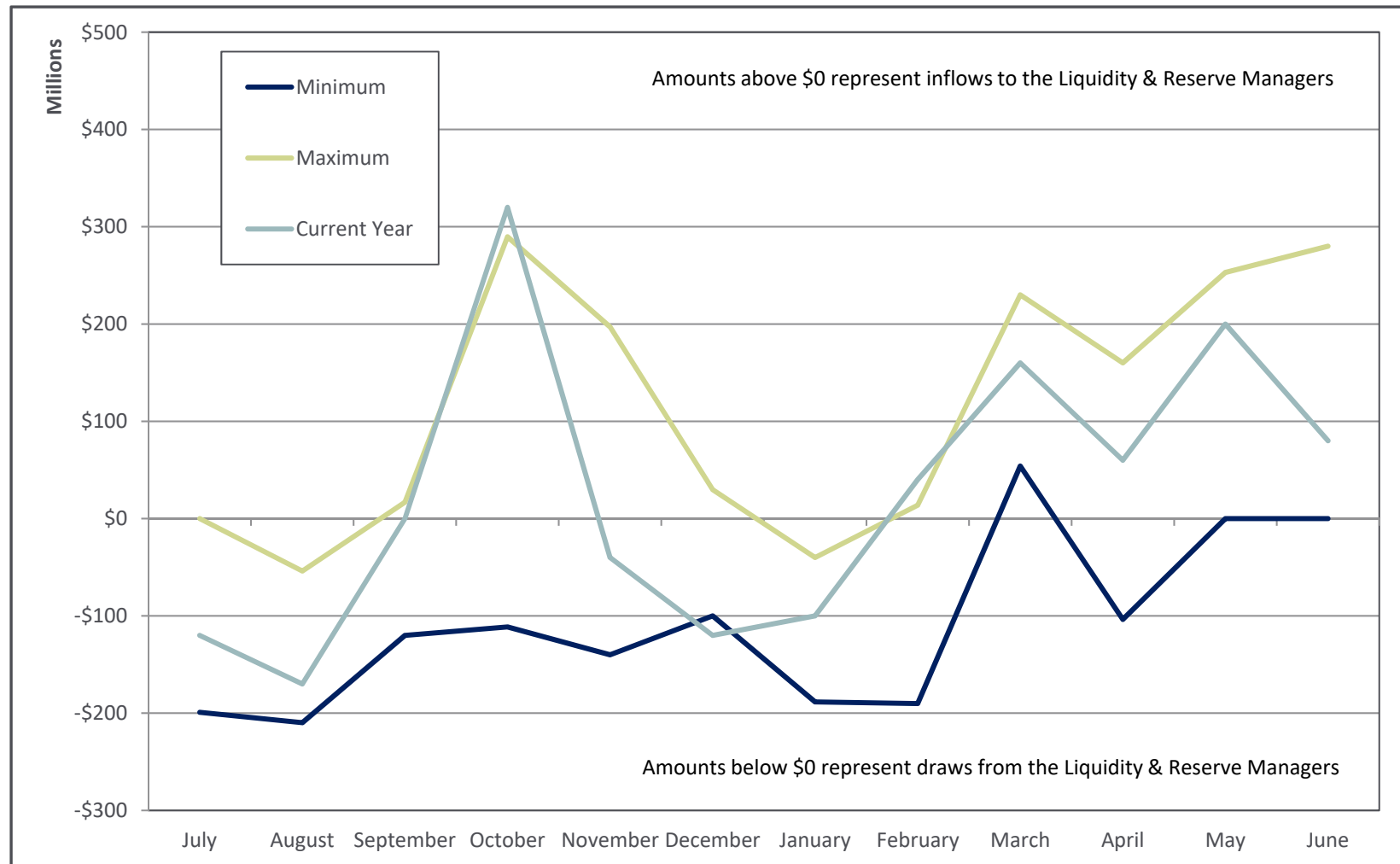
Reserve Portfolio Yield and Duration Analysis							
Portfolio					Benchmark		
	<u>Portfolio Value</u>	<u>% of Assets</u>	<u>Yield</u>	<u>Duration</u>		<u>Yield</u>	<u>Duration</u>
JP Morgan \$	446,232,523	17.3%	2.06%	1.81	BAML 1-3 Yr Govt/Credit A+	1.99%	1.84
BlackRock \$	450,402,164	17.5%	1.97%	2.77	BAML 1-5 Yr Govt/Credit A+	1.99%	2.57
Chandler \$	465,725,064	18.0%	2.22%	5.87	BAML 5-10 Yr Govt/Credit A+	2.25%	6.35
Lazard \$	461,513,160	17.9%	2.12%	6.27	BAML 5-10 Yr Govt/Credit A+	2.25%	6.35
Total Reserve \$	1,823,872,911	70.7%	2.09%	4.21	Custom Reserve Benchmark	2.12%	4.28

Total Liquidity & Reserve Portfolio Yield and Duration Analysis							
Portfolio					Benchmark		
	<u>Portfolio Value</u>		<u>Yield</u>	<u>Duration</u>		<u>Yield</u>	<u>Duration</u>
Total Liquidity & Reserve \$	2,580,630,879	100.0%	2.15%	3.17	Weighted Average	2.11%	3.51

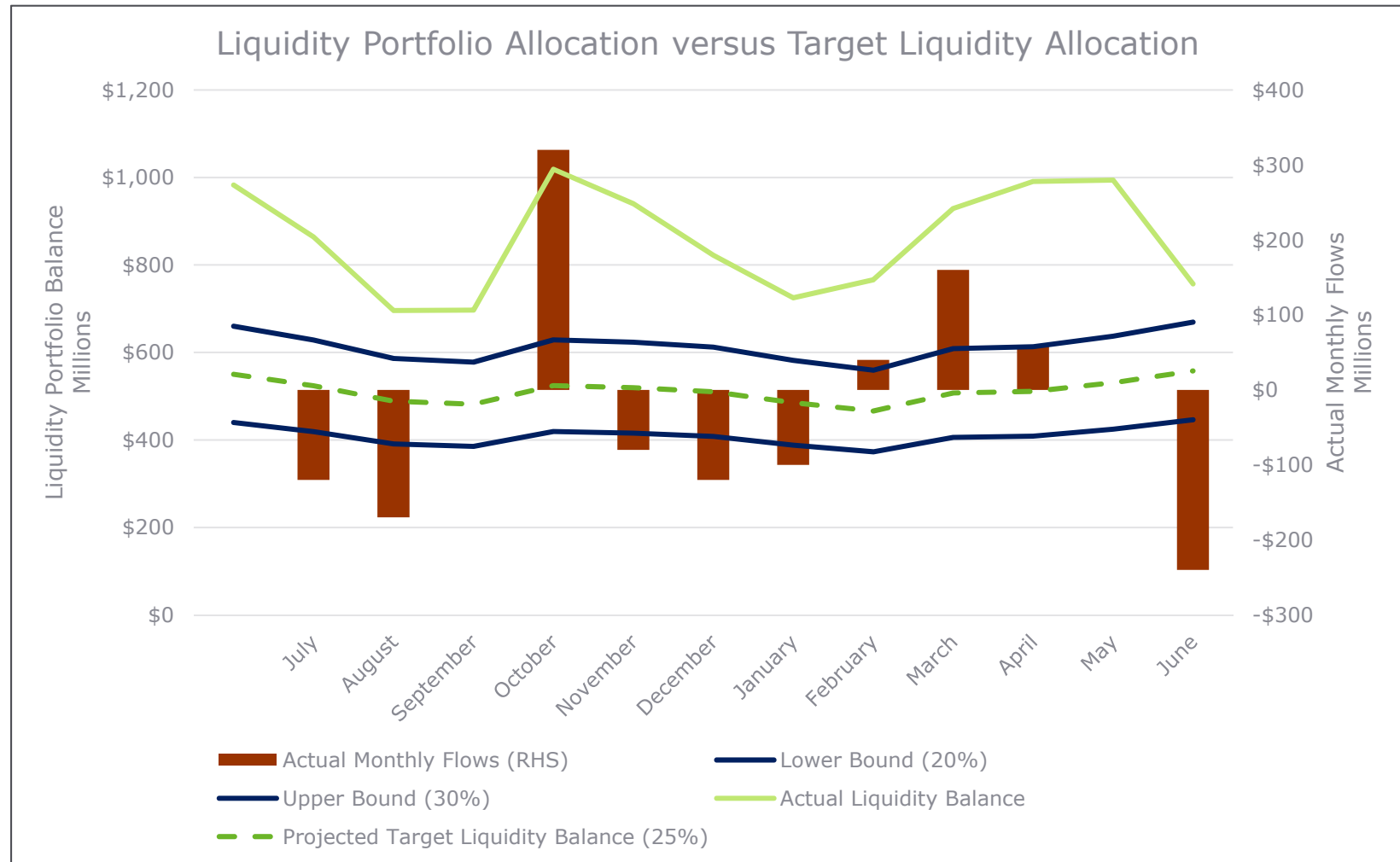
Source: Bloomberg, Barclays, Alerian, Nareit, MSCI, JP Morgan, Credit Suisse, Thomson One



CASH FLOWS – FISCAL YEAR 2019



LIQUIDITY BALANCE – FISCAL YEAR 2019



MONTH ENDED JUNE 30, 2019

Change in Market Value Month Ending June 30, 2019											
	Beginning Market Value	Contributions	Withdrawals	Fees	Income	Unrealized Gain (Loss)	Realized Gain (Loss)	Amortization / Accretion	Ending Market Value		
Liquidity Managers											
PFM Asset Management	\$ 498,160,522	\$ -	\$ (120,000,000)	\$ -	\$ 849,322	\$ 322,810	\$ 72,443	\$ 54,764	\$ 379,459,861		
Wilmington Liquidity	\$ 495,896,065	\$ -	\$ (120,000,000)	\$ -	\$ 693,088	\$ 455,073	\$ 90,564	\$ 163,318	\$ 377,298,107		
Total Liquidity Managers	\$ 994,056,587	\$ -	\$ (240,000,000)	\$ -	\$ 1,542,410	\$ 777,884	\$ 163,006	\$ 218,081	\$ 756,757,968		
Reserve Managers											
BlackRock Financial Management	\$ 367,560,802	\$ 80,000,000	\$ -	\$ -	\$ 817,736	\$ 1,800,961	\$ 225,100	\$ (2,435)	\$ 450,402,164		
Chandler Asset Management	\$ 379,869,957	\$ 80,000,000	\$ -	\$ -	\$ 893,204	\$ 4,881,442	\$ -	\$ 80,461	\$ 465,725,064		
JPM Intermediate	\$ 364,046,748	\$ 80,000,000	\$ -	\$ -	\$ 817,155	\$ 892,644	\$ 443,630	\$ 32,347	\$ 446,232,523		
Lazard Asset Management	\$ 375,182,222	\$ 80,000,000	\$ -	\$ -	\$ 875,056	\$ 4,822,942	\$ 552,892	\$ 80,047	\$ 461,513,160		
Total Reserve Managers	\$ 1,486,659,729	\$ 320,000,000	\$ -	\$ -	\$ 3,403,151	\$ 12,397,989	\$ 1,221,622	\$ 190,420	\$ 1,823,872,911		
Total Liquidity & Reserve Managers	\$ 2,480,716,316	\$ 320,000,000	\$ (240,000,000)	\$ -	\$ 4,945,561	\$ 13,175,872	\$ 1,384,628	\$ 408,502	\$ 2,580,630,879		
Land & Water Endowment											
SEI Funds	\$ 23,537,479	\$ -	\$ -	\$ -	\$ 22,759	\$ 1,005,207	\$ 101,152	\$ -	\$ 24,666,596		
MSIFT Global Strategist	\$ 22,041,041	\$ -	\$ -	\$ -	\$ 497	\$ 1,039,074	\$ -	\$ -	\$ 23,080,612		
JP Morgan Diversified	\$ 22,693,795	\$ -	\$ -	\$ -	\$ 169,242	\$ 909,438	\$ -	\$ -	\$ 23,772,475		
Cash Account	\$ 413	\$ -	\$ -	\$ -	\$ 1	\$ -	\$ -	\$ -	\$ 413		
Total Land & Water Endowment	\$ 68,272,728	\$ -	\$ -	\$ -	\$ 192,499	\$ 2,953,719	\$ 101,152		\$ 71,520,096		
Total	\$ 2,548,989,044	\$ 320,000,000	\$ (240,000,000)	\$ -	\$ 5,138,060	\$ 16,129,591	\$ 1,485,780	\$ 408,502	\$ 2,652,150,975		

Footnotes:

Values provided by Northern Trust and are reconciled to the audited custodian reports.

Income is a product of income received during the month plus accrued income.

Numbers may not add due to rounding.



FISCAL YEAR TO DATE

	Change in Market Value Fiscal Year-to-Date Through June 30, 2019									
	Beginning Market Value	Contributions	Withdrawals	Fees	Income	Unrealized Gain (Loss)	Realized Gain (Loss)	Amortization / Accretion	Ending Market Value	
Liquidity Managers										
PFM Asset Management	\$ 492,906,444	\$ 390,000,000	\$ (515,013,748)	\$ (306,286)	\$ 8,433,242	\$ 1,344,840	\$ 260,679	\$ 1,834,689	\$ 379,459,861	
Wilmington Liquidity	\$ 489,669,700	\$ 488,885,000	\$ (613,885,000)	\$ (314,417)	\$ 7,429,413	\$ 2,700,054	\$ 313,201	\$ 2,500,157	\$ 377,298,107	
Total Liquidity Managers	\$ 982,576,144	\$ 878,885,000	\$ (1,128,898,748)	\$ (620,703)	\$ 15,862,656	\$ 4,044,894	\$ 573,879	\$ 4,334,846	\$ 756,757,968	
Reserve Managers										
BlackRock Financial Management	\$ 304,178,445	\$ 130,000,000	\$ -	\$ (233,742)	\$ 7,294,867	\$ 9,450,677	\$ (757,052)	\$ 468,968	\$ 450,402,164	
Chandler Asset Management	\$ 306,602,083	\$ 130,000,000	\$ -	\$ (234,665)	\$ 8,402,814	\$ 20,048,986	\$ (223,336)	\$ 1,129,183	\$ 465,725,064	
JPM Intermediate	\$ 302,598,195	\$ 130,000,000	\$ -	\$ (299,344)	\$ 7,400,834	\$ 6,949,721	\$ (1,003,023)	\$ 586,139	\$ 446,232,523	
Lazard Asset Management	\$ 301,883,237	\$ 130,000,314	\$ -	\$ (363,960)	\$ 8,207,042	\$ 18,755,882	\$ 1,705,859	\$ 1,324,787	\$ 461,513,160	
Total Reserve Managers	\$ 1,215,261,960	\$ 520,000,314	\$ -	\$ (1,131,711)	\$ 31,305,557	\$ 55,205,266	\$ (277,552)	\$ 3,509,077	\$ 1,823,872,911	
Total Liquidity & Reserve Managers	\$ 2,197,838,104	\$ 1,398,885,314	\$ (1,128,898,748)	\$ (1,752,414)	\$ 47,168,213	\$ 59,250,160	\$ 296,327	\$ 7,843,923	\$ 2,580,630,879	
Land & Water Endowment										
SEI Funds	\$ 22,673,974	\$ 1,272,105	\$ (783,310)	\$ (80,596)	\$ 578,751	\$ 368,657	\$ 637,016	\$ -	\$ 24,666,596	
MSIFT Global Strategist	\$ 21,282,497	\$ 1,197,411	\$ (763,184)	\$ -	\$ 781,930	\$ (1,331,481)	\$ 1,913,439	\$ -	\$ 23,080,612	
JP Morgan Diversified	\$ 21,816,446	\$ 1,225,484	\$ (784,269)	\$ -	\$ 541,727	\$ (701,991)	\$ 1,675,080	\$ -	\$ 23,772,475	
Cash Account	\$ 3,571,583	\$ 2,359,591	\$ (5,957,999)	\$ -	\$ 27,239	\$ -	\$ -	\$ -	\$ 413	
Total Land & Water Endowment	\$ 69,344,500	\$ 6,054,591	\$ (8,288,762)	\$ (80,596)	\$ 1,929,647	\$ (1,664,816)	\$ 4,225,535		\$ 71,520,096	
Total	\$ 2,267,182,604	\$ 1,404,939,905	\$ (1,137,187,510)	\$ (1,833,010)	\$ 49,097,860	\$ 57,585,345	\$ 4,521,862	\$ 7,843,923	\$ 2,652,150,975	

Footnotes:

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Numbers may not add due to rounding.



Information Disclaimer

- Past performance is no guarantee of future results.
- All investments carry some level of risk. Diversification and other asset allocation techniques are not guaranteed to ensure profit or protect against losses.
- NEPC's source for portfolio pricing, calculation of accruals, and transaction information is the plan's custodian bank. Information on market indices and security characteristics is received from other sources external to NEPC. While NEPC has exercised reasonable professional care in preparing this report, we cannot guarantee the accuracy of all source information contained within.
- Some index returns displayed in this report or used in calculation of a policy, allocation or custom benchmark may be preliminary and subject to change.
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- This report may contain confidential or proprietary information and may not be copied or redistributed to any party not legally entitled to receive it.

Reporting Methodology

- The client's custodian bank is NEPC's preferred data source unless otherwise directed. NEPC generally reconciles custodian data to manager data. If the custodian cannot provide accurate data, manager data may be used.
- Trailing time period returns are determined by geometrically linking the holding period returns, from the first full month after inception to the report date. Rates of return are annualized when the time period is longer than a year. Performance is presented gross and/or net of manager fees as indicated on each page.
- For managers funded in the middle of a month, the "since inception" return will start with the first full month, although actual inception dates and cash flows are taken into account in all Composite calculations.
- This report may contain forward-looking statements that are based on NEPC's estimates, opinions and beliefs, but NEPC cannot guarantee that any plan will achieve its targeted return or meet other goals.

